

We claim:

*ins art*

1. A high-speed shear comprising a knife drum and a counter-drum located opposite the knife drum, at least one knife having a knife cutting edge mounted on the knife drum, at least one drive unit for accelerating the drums to a speed corresponding to a feeding speed of a rolled strip to be cut, and at least one adjusting device for adjusting the drums relative to each other for carrying out a cut, the knife drum having a cutting circle, wherein the knife is mounted so as to protrude beyond the cutting circle towards the counter-drum, and wherein the knife is mounted so as to be resiliently supported with a predeterminable restoring force against at least one spring element.

2. The high-speed shear according to claim 1, wherein the knife is a chisel-type knife.

3. The high-speed shear according to claim 1, wherein the counter-drum has a surface portion acting as an anvil and interacting with the knife.

4. The high-speed shear according to claim 1, wherein the counter-drum has an anvil interacting with the knife.

5. The high-speed shear according to claim 1, wherein the knife is mounted so as to be resiliently supported in a radial guide means of the knife drum.

6. The high-speed shear according to claim 1, wherein the knife is mounted so as to be resiliently supported on a link having a point of rotation, wherein the point of rotation of the link is located on the knife drum.

7. The high-speed shear according to claim 1, wherein the knife is non-resiliently mounted in the knife drum, and wherein the adjusting device receiving the knife drum and bearings thereof is mounted so as to be resiliently supported with a predeterminable restoring force against a spring element.

8. The high-speed shear according to claim 5, wherein the knife is mounted so as to be resiliently supported in the radial guide means against one of a steel spring and a steel spring stack.

9. The high-speed shear according to claim 1, further comprising another adjusting device for adjusting at least one of a spring travel and a progressiveness of the spring element.

10. The high-speed shear according to claim 5, wherein the knife is mounted so as to be supported in the radial guide means against a gas pressure spring.

11. The high-speed shear according to claim 1, wherein the knife is mounted so as to be supported against an elastomer cushion.

12. The high-speed shear according to claim 1, wherein the knife is mounted so as to be supported against a hydraulic liquid column interacting with a pressure reservoir.

13. The high-speed shear according to claim 1, wherein the adjusting device receiving the knife drum with a bearing thereof is mounted so as to be supported by a mechanically, pneumatically or hydraulically yielding receiving means.

14. The high-speed shear according to claim 13, wherein the receiving means is a spring strut.

15. The high-speed shear according to claim 1, comprising means for synchronizing the circumferential speeds of the drums with each other for maintaining a defined cutting gap between the

knife and the counter-drum and for synchronizing the circumferential speed of the drums with the strip feeding speed.

16. The high-speed shear according to claim 1, comprising means for synchronizing the adjusting device with a rotation of the drums in such a way that adjusting movements of the adjusting device are concluded when the knife travels past and are reversed after the knife has passed.

17. The high-speed shear according to claim 15, wherein the synchronization is effected electrically or electronically.

18. The high-speed shear according to claim 15, wherein the synchronization is effected by gear means.

19. The high-speed shear according to claim 16, wherein the synchronization is effected electrically or electronically.

20. The high-speed shear according to claim 16, wherein the synchronization is effected by gear means.

21. The high-speed shear according to claim 1, comprising a radial guide means, wherein the knife is resiliently mounted in

the radial guide means with a linear row of resilient support elements.

22. The high-speed shear according to claim 1, wherein the knife is a single-piece component, and wherein the knife is mounted to act elastically in the radial direction of the knife drum, further comprising segment-like spring elements for supporting the knife.

23. The high-speed shear according to claim 1, wherein the knife is comprised of a plurality of knife segments, wherein one of a single and several of the knife segments are mounted so as to be supported by segment-like spring elements.